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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,225	08/19/2003	Igor Keller	CA7017522001	6463

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EXAMINER
PIERRE LOUIS, ANDRE

ART UNIT	PAPER NUMBER
2123	

DATE MAILED: 10/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/644,225

Applicant(s)

KELLER, IGOR

Examiner

Andre Pierre-Louis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/10/2006 has been entered.
2. Claims 16-23 are added; and now claims 1-23 are presented for examination.

**Response to Arguments**

3. Applicant's arguments filed 10/10/2006 have been fully considered but are moot, in view of the new ground of rejection. However, in response to Applicant arguments that Beakes et al. does not teach determining at least a plurality of slews of the output and selecting a worst case input timing event, the Examiner respectfully disagrees and points to col.10 lines 53-64, also see performance analysis col.7 line 40-col.8 line 64 and col.13 line 24-col.14 line 42.

**Claim Rejections - 35 USC § 101**

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)). Accordingly, a complete disclosure

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should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application.

4.1 Claims 1-23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims do not produce a useful, concrete, and tangible result. *See MPEP 2106 [R2]*.

**Claim Rejections - 35 USC § 103**

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5.0 Claims 1-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beakes et al. (U.S. Patent No. 6,131,182), in view of Jess et al. (USPG\_PUB No. 2004/0002844).

5.1 In considering the independent claims 1,6, 11, and 19, Beakes et al. substantially teaches a method for determining a worst-case transition, and particularly teaches the steps of determining at least a plurality of slews of output timing events for a plurality of input timing events based on a timing model of a gate (*col.13 line 24-col.14 line 42*); and selecting a worst-case input timing event from the plurality of input timing events based on at least the slews of the output timing events (*Col.10 lines 53-64, col.5 line 23-col.6 line 38; also col.8 line 58-col.9 line 34*). Beakes et al. does not clear the term slew rates, Jess teaches determining the slew rate (see *para 0005-0007 and fig.1*). Beakes et al. and Jess et al. are analogous art because they are from

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the same field of endeavor and that the timing analysis used by Jess et al. is similar to the one utilized by Beakes et al. Therefore, it would have been obvious to one ordinary skilled in the art at the of the applicant's invention to combine the teachings of Beakes et al. with Jess et al. for the purpose of obtaining a more desirable timing model. Jess et al. further teaches advantage of having a more efficient system (*pg.8 (0087); see also pg.5 (0064), and pg. (0009-0014)*).

5.2 As per claims 2,7, 12, and 20, the combined teachings of Beakes et al. and Jess substantially teach the step of determining a plurality of gate delays for a plurality of input signals based on the timing model of the gate (*see Beakes et al. col.14 line 9-17; also see Jess fig.1 & 4*).

4.3 With regards to claims 3,8, 13, and 21, the combined teachings of Beakes et al. and Jess substantially teach that the step of selecting the worst-case input timing event further comprises the step of selecting a worst delay based on the gate delays (*Col.10 lines 53-64, col.5 line 23-col.6 line 38; also col.10 line 53-col.14 line 42*).

5.4 Regarding claims 4,9, 14, and 22, the combined teachings of Beakes et al. and Jess substantially teach that the timing model comprises  $To = Ti + Dg$ ,  $Dg = F(Si, C)$ ,  $So = Q(Si, C)$ , where  $To$  is an output time,  $Ti$  is an input time,  $Dg$  is a gate delay,  $Si$  is an input slew,  $C$  is a capacitive load of the gate, and  $So$  is an output slew, wherein the delay  $Dg$  of the gate depends, at least in part, on the slew of the input transition and capacitive load at the output of the gate (*pg.1 (0005-0007), pg.3 (0034-0039), and pg.5-6 (0063-0069)*). Although Jess et al. does not include the same formula recited in the claim, the timing mode and analysis utilized by Jess et al. considers gate delay, input slew, load and output slew (*pg.1 (0005-0007), pg.3 (0034-0039), and pg.5-6 (0063-0069)*).

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5.5 Regarding claims 5,10, 15, and 23, the combined teachings of Beakes et al. and Jess substantially teach that the timing model is a timing library format (FTL) model (*col.8 line 58-col.10 line 12*).

5.6 With regards to claims 16-18, the combined teachings of Beakes et al. and Jess substantially teach that the output slews of the output timing events includes slew rate of the output timings, which is determined by an amount of time for a waveform to transition from a first voltage to a second voltage (*see Jess fig.1, 3-4, also para 0005-0008 and 0035*).

### **Conclusion**

6.0 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6.1 Graef (U.S. Patent No. 6,598,213) teaches a static timing analysis validation tool for ASIC core.

6.2 Wang et al. (U.S. Patent No. 5,579,510) teaches a method and structure for use in static timing verification of synchronous circuit.

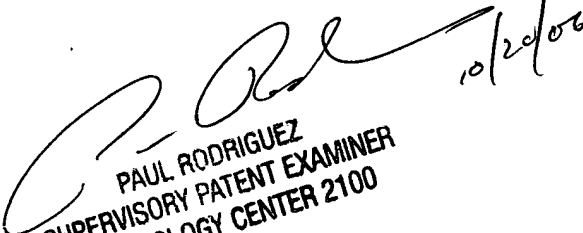
7.0 Claims 1-23 are rejected and **THIS ACTION IS Non-FINAL**. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andre Pierre-Louis whose telephone number is 571-272-8636. The examiner can normally be reached on Mon-Fri, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul L. Rodriguez can be reached on 571-272-3753. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

October 18, 2006

APL

  
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SUPERVISORY PATENT EXAMINER  
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10/20/06